

What is claimed is:

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1. An aircraft skin lap router apparatus, comprising:
a guide, fastened to the skin by fasteners drilled through the skin;
a platform, mounted on the guide;
a router having a vertical adjustment, mounted on the platform; and
a vacuum fitting, mounted on the platform, wherein an operator adjusts
the router vertical adjustment for a desired depth-of-cut on the aircraft skin
lap, the router cuts the skin lap, and removes debris via the vacuum fitting.

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2. The apparatus of Claim 1, wherein a vertical height setting may be
made within one-thousandth of an inch using the router vertical adjustment.

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3. The apparatus of Claim 1, wherein the router is selected from the
group consisting of a pneumatic router and an electric router.

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4. The apparatus of Claim 1, wherein the router has a speed
adjustment.

5. The apparatus of Claim 1, further comprising an end mill attached
with the router.

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6. The apparatus of Claim 5, wherein the end mill is a 0.250", three-
fluted end mill.

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7. The apparatus of Claim 1, further comprising grips on the router.

8. The apparatus of Claim 1, wherein the guide is a plastic material
and is formed to a uniform height and width.

9. The apparatus of Claim 8, wherein the guide is a nylon profile.

10. The apparatus of Claim 1, further comprising at least one bearing mounted on the platform and interfacing with the guide.

5 11. The apparatus of Claim 3, further comprising air fittings attached to the platform for receiving air from an air supply and for delivering air to a pneumatic router.

10 12. A sheet metal router apparatus, comprising:
 a guide, fastened to the sheet metal by fasteners drilled through the sheet metal;
 a platform, mounted on the guide; and
 a router having a vertical adjustment, mounted on the platform,
wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut and moves the platform continuously along the guide to make a desired cut.

15 13. The apparatus of Claim 12, wherein a vertical height setting may be made within one-thousandth of an inch using the router vertical adjustment.

20 14. The apparatus of Claim 12, further comprising a vacuum fitting mounted on the platform.

25 15. The apparatus of Claim 12, wherein the router is selected from the group consisting of a pneumatic router and an electric router.

30 16. The apparatus of Claim 12, wherein the router has a speed adjustment.

17. The apparatus of Claim 12, further comprising an end mill attached with the router.

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18. The apparatus of Claim 17, wherein the end mill is a 0.25", three-fluted end mill.

19. The apparatus of Claim 12, wherein the guide is a plastic material formed to a uniform height and width.

20. The apparatus of Claim 12, further comprising at least one bearing mounted on the platform and interfacing with the guide.

21. The apparatus of Claim 15, further comprising air fittings attached to the platform for receiving air from an air supply and for delivering air to a pneumatic router.

22. An aircraft skin lap router apparatus, comprising:
a nylon guide, fastened to the skin by fasteners drilled through the skin;
a platform, mounted on the guide, the platform interfacing with the guide through at least one bearing;
a router having a vertical adjustment within one-thousandth of an inch, mounted on the platform, said router having at least two hand grips and a speed adjustment, and adapted to receive a source of power;
an end mill mounted removably on the router; and
a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut on the aircraft skin lap, the router cuts the skin lap, and removes debris via the vacuum fitting.

23. The router apparatus of Claim 22, wherein the source of power is electric or pneumatic.

24. A sheet metal router apparatus, comprising:
a nylon guide, fastened to the sheetmetal by fasteners drilled through the sheetmetal;

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a platform, mounted on the guide, the platform interfacing with the guide through at least one bearing;

a router having a vertical adjustment within one-thousandth of an inch, mounted on the platform, said router having at least two hand grips and a speed adjustment, and adapted to receive a source of power;

an end mill mounted removably on the router; and

a vacuum fitting, mounted on the platform, wherein an operator adjusts the router vertical adjustment for a desired depth-of-cut, moves the platform continuously along the guide to make a desired cut, and removes debris via the vacuum fitting.

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25. The router apparatus of Claim 24, wherein the source of power is electric or pneumatic.

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